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ABSTRACT

This curriculum for the training of students in grades 11 and 12 is intended to provide a program of instruction in the operation and maintenance of heavy equipment for construction work and farms. It is also suitable for the training of adult learners interested in upgrading their skills or improving their opportunities to enter this labor market. The 21 topics are categorized under 2 major headings. Equipment operation includes these 10 topics: pre-operation procedures, fork truck, crane, crawler tractor, industrial tractor, front loader, backhoe, grader, scraper, and pulled attachments. Truck driving includes these 11 topics: regulations and inspection, shifting, backing and docking (truck alone), maneuvering (truck alone), hooking to trailer, backing and docking (truck-tractor and semi-trailer combination), maneuvering (truck-tractor and semi-trailer), parking, loading and securing load, and over-the-road. For each topic some or all of this information is provided: objective, equipment needed, special preparation, student action, performance check, needed resources, and caution (remarks concerning safety). (YLB)

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HEAVY EQUIPMENT OPERATION CURRICULUM FOR GRADES 11 - 12

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To all involved, we express our sincere appreciation.

Robert F. McNulty
Assistant Project Director

RFMN/jhl
6/15/82

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ABSTRACT

The objective of this project was to develop a curriculum which will provide a program of instruction in the operation and maintenance of heavy equipment for construction work and farms. The curriculum was developed for students enrolled in local education agencies attending 11-12 grades. The curriculum was constructed to be used for the training of adult learners interested in upgrading their skills or improving their opportunities to enter this labor market.

DESIGN

The curriculum was designed to:

(1) Introduce students to the needs of heavy construction/farm equipment.

(2) Instruct the student in the operation of heavy construction/farm equipment.

(3) Instruct the student in the proper maintenance of heavy construction/farm equipment. This will include the care and operation of diesel motors which are used extensively for the operation of heavy equipment.

(4) Provide for hands-on operation of heavy equipment by developing cooperative programs with unions, construction companies, local public works departments and farmers in the locality.

(5) Incorporate related academic instruction with supervised field work.

PROBLEM

Farms, utility companies, construction firms and public works departments are constantly in need of properly prepared persons in the field of operation and maintenance of heavy construction equipment. At the present time, there is very little training available in local education agencies to prepare for this field of work.

EVALUATION

Throughout the development of this curriculum, the program was under the direction of the director of the project, in cooperation with the Consultant for Trade and Industrial Education of the State Department of Education.

SEX EQUITY

All materials produced within this curriculum will promote sex equity and follows the guidelines established by the equity consultant of the State Department of Education.

Pre-Operation Procedures

Pre-start check

Periodic check

Safety check

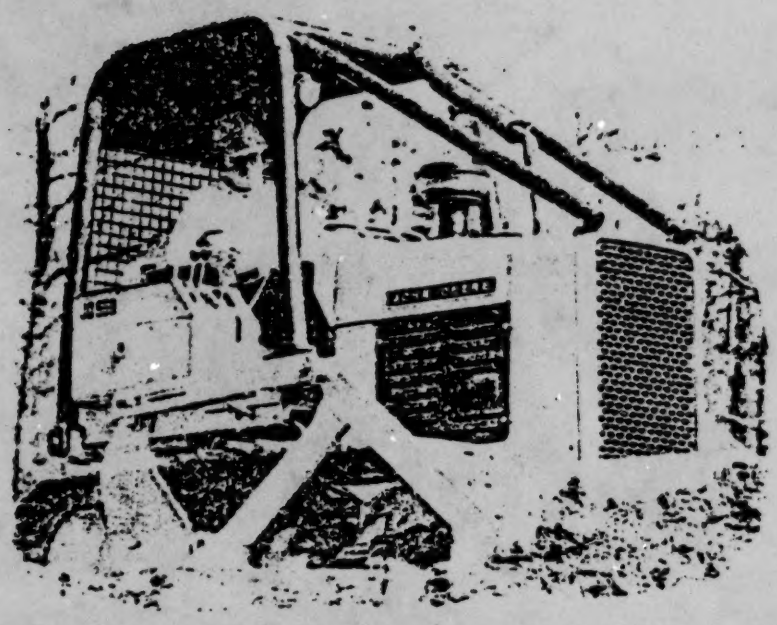
Visual inspection

Electric starting system

Gasoline starting motor system

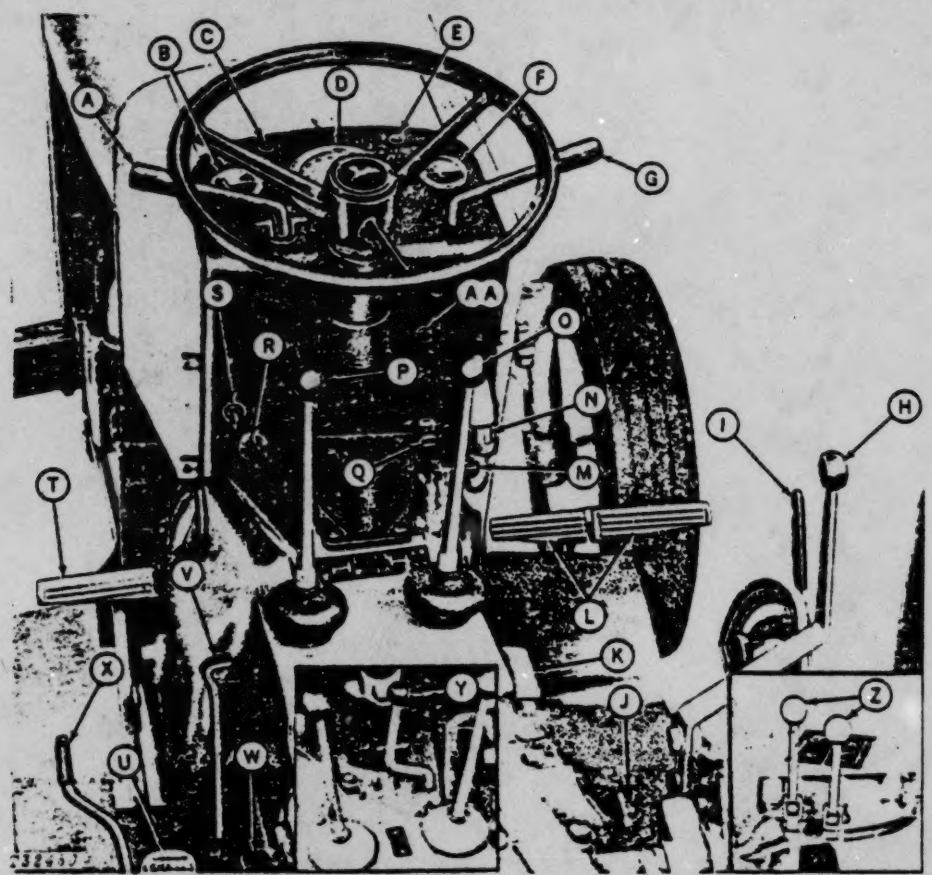
International gas-start diesel-run system

Hand signals



Controls and Instruments

Before attempting to operate your new tractor, become familiar with the location and purpose of its controls and instruments. Study the next few pages carefully, regardless of your previous experience.



A—Reverser Lever
B—Water Temperature Gauge
C—Alternator Indicator Light
D—Tachometer and Hourmeter
E—Engine Oil Pressure Indicator Light
F—Fuel Gauge
G—Hand Throttle
H—Selective Control Lever
I—Rockshaft Control Lever
J—Load and Depth Control Lever
K—Foot Throttle
L—Brake Pedals
M—Choke (gasoline)
N—Diesel Starting Fluid Adapter
O—Gear Shift Lever
P—Range Shift Lever
Q—Cigaret Lighter
R—Light Switch
S—Key Switch
T—Clutch Pedal
U—Differential Lock Pedal
V—Mid PTO Selector Lever
W—Rear PTO Selector Lever
X—Parking Brake
Y—Independent PTO Control Lever
Z—Loader Control Levers
AA—Horn Button

Pre-Start Check

OBJECTIVE:	Given a piece of equipment, the student must check the coolant and lubricant levels and evaluate the condition of the piece of equipment before starting the engine.
EQUIPMENT:	-a piece of heavy equipment
STUDENT ACTION:	The student checks the level of the radiator coolant, engine oil, fuel, hydraulic fluid, and transmission, (if dipstick equipped). Knowing the level of the fluids, the student decides whether the equipment is in operating condition and if not, what corrections need to be made.
PERFORMANCE CHECK:	The instructor observes the level of the fluids and determines if the student's evaluations are correct. If necessary, review the procedure and discuss the cause for the incorrect evaluation.
RESOURCES:	Operator's Manuals

Periodic Check

OBJECTIVE: Given a piece of equipment, the student must perform a periodic check of the battery electrolyte, transmission fluid (if not dipstick equipped), air cleaner condition, tire pressure (if rubber tire equipped).

EQUIPMENT:
-a piece of heavy equipment
-necessary tools

STUDENT ACTION: The student checks the condition of the fluids and components mentioned above. Knowing the condition of the fluids and components, the student decides whether the equipment is in operating condition, and if not, what corrections need to be made.

PERFORMANCE CHECK: The instructor checks the level of the fluids and condition of the components. The instructor compares his data with the student's and determines if the student's evaluation is correct. If necessary, review the procedure, and discuss the cause for the incorrect evaluation.

RESOURCES: Operator's Manual

Safety Check

OBJECTIVE: Given a piece of equipment the student must make a safety check of transmission, attachments, and clutch before starting the equipment.

EQUIPMENT: -a piece of heavy equipment to be operated.

STUDENT ACTION: The student checks for neutral position of transmission, neutral position of attachments, and disengages the engine clutch before starting the engine. The student learns to check for disengagement of any lever so the machine or its attachments can not start moving and injure anyone.

PERFORMANCE CHECK: The student's performance is observed to determine the level of skill. Periodic checking of the student will show it the skill is a consistant habit. This task should be retested periodically to insure that careless behavior has not occured. Where necessary, explain the errors and weakness to the student. Emphasize the importance of checking and give examples of possible accidents. Have student repeat the task.

RESOURCES: Operator's Manual

Visual Inspection

OBJECTIVE: Given a piece of equipment, the student must make a visual inspection of the equipment for such items as flat tires, loose guards, broken parts, and leaks to the instructor's satisfaction.

EQUIPMENT: -a piece of equipment

STUDENT ACTION: The student makes a thorough visual inspection of the piece of equipment. He locks for such items as are listed above. He determines the condition of the piece of equipment and evaluates its "readiness" to operate.

PERFORMANCE CHECK: The instructor assigns a piece of equipment to the student either for checking or for operation. The student must make a visual inspection and evaluate the equipment's condition. Inspect the piece of equipment and determine the quality of the student's evaluation. Where necessary, determine the errors and/or weaknesses of the studnet. Explain them to the student. Reassign the task and retest.

RESOURCES: Owner's Manual

Electric Starting System

OBJECTIVE: Given a piece of heavy equipment equipped with an electric starter, the student must start the unit to the instructor's satisfaction.

EQUIPMENT: -a piece of heavy equipment

STUDENT ACTION: The student learns to identify different styles of ignition switches and their operations. Likewise various types of starter switches are identified. The student becomes proficient at starting a variety of units equipped with ignition switch, starter switch, and direct starting electric starter.

PERFORMANCE CHECK: The instructor assigns the task to be done. The student is observed to determine the correctness of the skill. Check for proper period of rest and cooling if the starter is used for a length of time. This prevents overheating of the starter. Where necessary, isolate the error of the student. Review the identification of types of switches. Expalin other weaknesses. Reassign the task.

RESOURCES: Operator's Manual

Gasoline Starting Motor System

OBJECTIVE: Given a piece of heavy equipment with a gasoline motor for starting the diesel, the student must start the unit to the instructor's satisfaction.

EQUIPMENT: -Caterpillar diesel with gasoline starting motor

STUDENT ACTION: The student learns the purpose of all the controls (decompression, pinion, clutch, etc.) and their sequence of operation. The gasoline engine is started with the electric starter. The compression is released on the diesel engine. The pinion is engaged, then the clutch. After the diesel engine is turning, the compression lever is engaged. When the engine starts, the clutch and pinion are disengaged.

PERFORMANCE CHECK: The instructor checks the student's performance to determine the level of competency. Assign the task to the student and observe for the proper sequence as stated above. Where necessary, determine the errors and weaknesses. Explain them to the student. Provide opportunity for practice. Re-assign the task and re-test.

RESOURCES: Operator's Manual

International Gas-Start Diesel-Run System

OBJECTIVE: Given a piece of heavy equipment with an International engine that starts on gasoline and switches to diesel, the student must start the unit according to the manufacturers specifications.

EQUIPMENT: -an older style international diesel

STUDENT ACTION: The student learns the purpose of all the controls (gasoline chamber, starter lever, gasoline throttle, etc.) and the proper sequence to start the unit. The engine is switched to gasoline. The starter is engaged and the engine choked. After the engine is running on gasoline, it is switched to diesel by simultaneously closing the gasoline chamber and operning the diesel throttle.

PERFORMANCE CHECK: The instructor observes the student to determine the level of competency. Assign the task and check for the proper sequence as state above. Where necessary, determine the errors and weaknesses of the student. Review the function and sequence of the controls. Re-assign the task and re-test.

RESOURCES: Operator's Manual

Fork Truck

Learning controls of fork truck

Picking up pallet with fork truck

Moving pallet from one location to another

Completing final test (fork truck)

Picking Up Pallet With Fork Truck

OBJECTIVE: Given a fork lift and pallet, the student must align the fork lift with the pallet and pick it up within two attempts.

EQUIPMENT:
-a fork truck
-a pallet

STUDENT ACTION: The student learns to align the fork truck with the pallet. The characteristics of rear wheel steering are learned. The student learns to center the front wheels of the fork lift in line with the center of the pallet and then straighten the fork truck to the pallet.
The student properly positions the pallet on the forks, that is, pallet centered and as close to the rear as possible.

PERFORMANCE CHECK: The instructor observes the student's performance by checking for good alignment before lifting the pallet, (also check) for proper positioning of the load. Explain any observed error or weakness to the student. Show the proper way. Give helpful suggestions and allow the student to practice. Re-test.

Learning Controls of Fork Truck

OBJECTIVE: Given a fork truck, the student must know the controls for operation to 100% accuracy.

EQUIPMENT: -a fork truck

STUDENT ACTION: The student learns the function and operation of each control. The student learns which direction to move a level to obtain the desired response. Foot pedals, transmission controls, and fork control levers are learned.

PERFORMANCE CHECK: The instructor must observe the student's operation. Knowledge of the controls is checked with written pictorial identification, or oral exam. If necessary, review the operation of the controls which are not known. Allow the student to operate and experiment with the controls. Retest.

RESOURCES: Operator's Manual

Moving Pallet From One Location to Another

OBJECTIVE: Given a fork lift and a pallet, the student must move the pallet from one location to another, placing the pallet within ± 6 inches of a prescribed location in two attempts.

EQUIPMENT:
-a fork lift
-a pallet
-a specific location (possible a truck)

STUDENT ACTION: The student moves the pallet from one location to another (truck to floor, floor to truck, truck to truck, etc.) The load is positioned in the center and as close to the rear as possible. The load is carried as low as possible during transportation to reduce the possibility of tipping. The pallet is positioned within ± 6 inches of a place prescribed by the instructor.

PERFORMANCE CHECK: The instructor observes the student's action by checking for the position of the load on the forks, the position in which the load is carried, and the general safety of operation. Determine if the pallet is placed in the specified location. When necessary, explain weaknesses or error to the student. Review the correct procedure. Allow opportunity for practice. Reassign the task and re-test.

Completing Final Test - Fork Truck

OBJECTIVE: Given a fork lift and the obstacle course in the appendix, the student must complete the exercise in three minutes.

EQUIPMENT:
-fork truck
-pallet with load 10-12' wide
-safety cones, or some means of simulating boundaries of the exercise.

STUDENT ACTION: The student learns fork lift operation in a simulated warehouse setting. He picks up the pallet, backs down the aisle, maneuvers through the narrow opening, proceeds down the next isle, places the pallet and backs to the finish point. Skill is developed in maneuvering in tight situations. The student develops the "feel" of rear wheel steering.

PERFORMANCE CHECK: The instructor assigns the task and observes the student's performance. The student should safely maneuver the course within the specifications. Where necessary, show the student the weakness that causes him not to meet the specifications. Give opportunity for practice. Re-assign the task and re-test.

Crane

Learning controls of shop crane

Learning controls of track crane

Learning to position boom

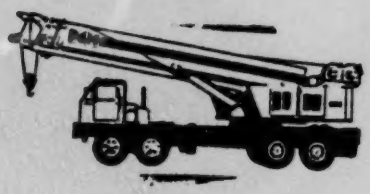
Attaching chain or cable for hoisting

Hoisting and moving load (shop crane or track crane)

Drag bucket operation

Clamshell operation

Setting beams



Learning Controls of Shop Crane

OBJECTIVE: Given a shop crane (cherry picker), the student must know the controls for operations to 100% accuracy upon command (voice or hand signals) of the instructor.

EQUIPMENT: -shop crane

STUDENT ACTION: The student learns the function and operation of each control. The student learns which direction to move a lever to obtain the desired response. Foot pedals, transmission controls and crane controls are learned.

PERFORMANCE CHECK: The instructor checks the student's knowledge of the controls with written pictorial identification or oral exam. The student is placed in an operating situation and given specific commands or hand signals. The student should respond according to the specifications. The instructor should observe this student and note the weaknesses and errors. Explain the weaknesses with helpful suggestions for correction. Give opportunity for practice. Re-assign task and re-test.

Learning Controls of Track Crane

OBJECTIVE: Given a track crane, the student must know the controls for operation of the machine to 100% accuracy upon command (voice or hand signals) of the instructor.

EQUIPMENT: -a track crane

STUDENT ACTION: The student learns the function and operation of each lever or control. The student learns which direction to move a lever to produce the desired response of the machine. Proper sequence and coordination of foot controls with hand controls are learned. Transmission and ground movement controls are learned.

PERFORMANCE CHECK: The instructor tests the student's knowledge of the controls by a written pictorial identification test, or with an oral exam. The student must demonstrate the correct lever movement in response to the hand signals of the instructor. Where necessary, explain errors or weaknesses to the student. Allow the student to practice. Re-assign the task and re-test.

RESOURCES: Crane Shovels and Attachments

Learning To Position Boom

OBJECTIVE: Given a crane and a load, the student must hoist a load with the boom at a safe angle and in accord with the manufacturer's recommendations.

EQUIPMENT:
-crane
-load
-operation manual

STUDENT ACTION: The student learns the proper setting of the boom for the job. The boom is kept within the safe operating range (below a 78 degree angle, see RESOURCES. The machine capabilities are known, that is the load capacities at various boom angles and the radius at those angles. The student learns the "feel" of the machine as to how much weight it can lift as specific boom settings.

PERFORMANCE CHECK: The instructor assigns the task and observes the student's performance. Observation is made to determine if the student is lifting too much weight with the boom extended. (With a shop crane, an exercise where the machine slightly tips is in order. On a large crane, the student has to learn the "feel" of the machine).

Where necessary, show the student the errors and weaknesses. Explain the weaknesses with helpful suggestions for correction. Give opportunity for practice. Re-assign task and re-test.

RESOURCES: Crane Shovels and Attachments, U.S. Army Engineer School

Attaching Chain or Cable for Hoisting

OBJECTIVE: Given a crane and a load to be hoisted, the student must attach a chain or cable to the equipment and hoist the load safely to the instructor's satisfaction.

EQUIPMENT:
-crane
-load
-chain and/or cable

STUDENT ACTION: The student learns to find secure hitch points for attaching the chain or cable to the load. If none are available he has to make a sling. He attaches the chain or cable to the load and hooks it to the crane. The slack is removed and visual check is made for approximate balance of the load. The load is slowly hoisted. If the balance is good, the load is moved. If not, the hoist is lowered, the chain is slacked and the load is re-distributed by lengthening and/or shortening the chains. The chain or cable must be secured to the block so it can not slide and change the balance of the load.

PERFORMANCE CHECK: The instructor observes the student's performance. Check is made for proper hitch points. Observe the balance of the load and the safety with which it can be hoisted. When necessary, show the errors and weaknesses to the student. Explain a better way or let the student determine what would work better. Give student opportunity to correct the work. Re-assign task and re-test.

Hoisting & Moving Load (Shop Crane or Track Crane)

OBJECTIVE: Giving a load and a crane, the student must move a load from one location to another and place the load in a specified location within ± one foot.

EQUIPMENT:
-crane
-load

STUDENT ACTION: The student must hoist a load and move it to the desired location (on a dock, a truck, a pallet, the ground, etc.) The load is set in a specified place according to the specifications. The load is carried as low as possible to minimize the damage if it should accidently drop.

PERFORMANCE CHECK: The instructor assigns the task and observes the operation to determine if the operation is done safely and to the specifications. The platform of the crane should be turned slowly to avoid excessive swinging of the load. When necessary show the student his errors and weaknesses. Provice opportunity for practice. Re-assign and re-test.

Drag Bucket Operation

OBJECTIVE: Given a crane with a dragbucket, the student must operate the drag bucket and move dirt, making cuts to within ± 6 inches of the specification.

EQUIPMENT -crane equipped with a drag bucket

STUDENT ACTION: The student learns to simultaneously operate the clutches and brakes which control the drag bucket. For example, the hoise clutch and brake are used to maintain the depth to the cut while the bucket is pulled toward the machine. The full bucket is then dumped in a specified location.

PERFORMANCE CHECK: The student's performance is observed to determine if the operation is within the specifications. Check should be made for proper use of equipment.

RESOURCES: Operator's Manual

CAUTION: It is suggested that the student keep one hand on the "swing" clutch at all times, and alternate the other hand between the "hoist" and "drag" clutch levers.

Clamshell Operation

OBJECTIVE: Given a crane with a clamshell, the student must move the payload from one place to another and dump it to the instructor's satisfaction.

EQUIPMENT: -crane equipped with a clamshell

STUDENT ACTION: The student learns to fill the clamshell with payload, hoist the clamshell, and dump the payload in a specified location. The student learns to use both hoists simultaneously when lifting the clamshell, since the hoist and clamshell control cables are usually strung through different size blocks and operate at different speeds.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the performance is within the specifications. Check should be made for proper and safe use of crane.

Setting Beams

OBJECTIVE: Given a crane and a beam or girder, the student must set the beam or girder to the specifications.

EQUIPMENT:
-crane
-beam or girder

SPECIAL PREPARATION: Provide a place and specifications for setting beams.

STUDENT ACTION: The student learns to attach the crane to a beam or girder. Then he hoists the beam and carefully sets the beam in place. Other students can help guide the beam with short pieces of cable or chain.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the performance is within the specifications. Check should be made for proper and safe operation.

CAUTION: Use extreme caution and slow movement since men on the ground have to help place the beam.

Crawler Tractor

Learning controls of crawler tractor - manual shift

Learning controls of crawler tractor - power shift

Pushing trees

Pulling trees

Piling brush

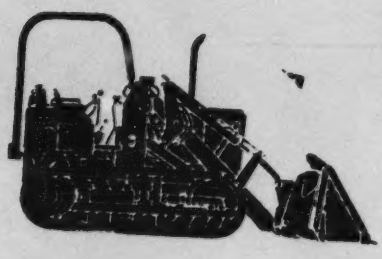
Making a cut to a specified grade

Making a fill to a specified grade

Filling a pond

Pushing a scraper

Winching equipment



Learning Controls of Crawler Tractor - Manual Shift

OBJECTIVE: Given the necessary information, the student must know the controls for the operation of the crawler tractor to 100% accuracy.

EQUIPMENT:
-operator's manual for the specific tractor
-crawler tractor with gear type transmission

STUDENT ACTION: The student learns the function and operation of each control. The student learns which direction to move a lever to produce the desired response of the machine. Proper usage of clutch, throttle, brake, transmission controls, shuttle, blade, winch, and steering clutches is emphasized.

PERFORMANCE CHECK: The instructor determines the student's knowledge of the controls by giving a written pictorial identification exam, or by observation of the student's response when given an oral command for a specific function. For example, when told to "lower the blade" or "turn left". The student should correctly perform the desired operation.

When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

RESOURCES: Operator's Manual

Learning Controls of Crawler Tractor - Power Shift

OBJECTIVE: Given the necessary information, the student must know the controls for the operation of the crawler tractor to 100% accuracy.

EQUIPMENT:
-operator's manual for the specific tractor
-crawler tractor with power shift

STUDENT ACTION: The student learns the function and operation of each control. The student learns which direction to move a lever to produce the desired response of the machine. Proper usage of throttle, brake, transmission controls, blade, winch and steering clutches is emphasized.

PERFORMANCE CHECK: The instructor determines the student's knowledge of the controls by giving a written pictorial identification exam, or by observation of the student's response when given an oral command for a specific function. For example, when told to "lower the blade" or "turn left". The student should correctly perform the desired operation.

When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

RESOURCES: Operator's Manual

Pushing Trees

OBJECTIVE

Given a blade equipped crawler tractor and a standing tree, the student must push out the tree to the instructor's satisfaction.

EQUIPMENT:

-blade equipped dozer
-standing tree(s)

SPECIAL PREAPARATION:

Provide an area with trees.

STUDENT ACTION:

The student learns to push out trees. The skill is taught for two sizes of trees.

Small trees: The student is taught to ease into the tree with the blade at the full height of its travel.

Larger trees: The student is taught to push dirt and roots away from the base of the tree. Then a mound of dirt is built on one side of the tree. The pushing is done from the mound to give the dozer more leverage against the tree.

PERFORMANCE CHECK:

The instructor observes the student's performance specified above. Measurement is made by assessing the degree to which the student follows the proper technique as taught by the instructor. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

Pulling Trees

OBJECTIVE: Given a winch equipped crawler tractor and a standing tree, the student pulls over the tree to the instructor's satisfaction

EQUIPMENT:
-standing tree
-winch equipped dozer

STUDENT ACTION: The student learns to pull out trees. Skill is taught in hooking the winch line to the tree at the proper height. Positioning of the dozer at a safe distance is mandatory. The student learns to hold the dozer in place as the winch line is pulled. This may be accomplished by lowering the blade and digging the tracks into the ground.

PERFORMANCE CHECK: The instructor observes the student's performance. Measurement is made by assessing the degree to which the student follows the proper technique as taught by the instructor. Check is made for proper hitching to the tree and safe operating distrance. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

CAUTION: The location of the tractor from the tree must be at a distance which is greater than the height of the trees.

Piling Brush

OBJECTIVE: Given a dozer and fallen trees which need to be moved, the student must push the trees with a minimum of dirt to the specified location to the instructor's satisfaction.

EQUIPMENT:
- -crawler tractor with dozer blade
- -fallen trees

STUDENT ACTION: The student learns to use the dozer blade to pile trees and brush which have been removed. Proper blade height is maintained to keep the blade out of the dirt, and to avoid rolling over the trees and brush.

PERFORMANCE CHECK: The instructor observes the student's performance. Measurement is made by assessing the degree to which the student follows the proper technique as taught by the instructor. The piled brush should contain a minimum amount of dirt. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

Making A Cut To A Specified Grade

OBJECTIVE: Given a crawler tractor equipped with a dozer blade and a set of grade stakes to follow, the student must cut away dirt to the given specifications within +0.75 ft.

EQUIPMENT:
-crawler tractor with dozer blade
-area in which to move dirt
-transit, level, or hand level
-target rod

SPECIAL PREPARATION: Provide a set of specifications for the student to follow.

STUDENT ACTION: The student learns to use the dozer blade to pile trees and brush which have been removed. Proper blade height is cut and maintain the depth of the cut while the tractor crawls into the area of the fresh cut.

PERFORMANCE CHECK: The instructor observes the student performance in relation to the objective. The depth of the cut is measured and compared to the grade stakes. The uniformity of the surface is also measured and assessed in relation to the specifications. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Reassign and re-test.

Making A Fill To A Specified Grade

OBJECTIVE: Given a crawler tractor equipped with a dozer blade and a set of grade stakes to follow, the student must make a fill to given specifications within +0.75 ft.

EQUIPMENT:
-crawler tractor with dozer blade
-area in which to move dirt
-transit, level, or hand level
-target rod

SPECIAL PREPARATION: Provide a set of specifications for the student to follow.

STUDENT ACTION: The student learns to control the dozer blade to make the desired fill. The dirt is worked from the solid base out to the fill.

PERFORMANCE CHECK: The instructor observes the student's performance in relation to the objective. The elevation of the fill is measured and compared to the grade stakes. The uniformity of the surface is also measured and assessed in relation to the specifications. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

Filling A Pond

OBJECTIVE: Given a pond and a crawler tractor equipped with a dozer blade, the student must drain the pond and fill it with dirt to the instructor's satifaction.

EQUIPMENT:
-carwler tractor with dozer blade
-a pond

STUDENT ACTION: The student learns to drain the pond by cutting through the levee or earthen dam. After the pond is drained, it is filled with dirt. Care is exercised to avoid getting the crawler stuck as dry dirt is worked into the wet area of the pond.

PERFORMANCE CHECK: The instructor observes the student's performance. Assessment of the student's performance is made. The student should work through each phase of filling one pond. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign tast and re-test.

Pushing a Scraper

OBJECTIVE: Given a crawler tractor equipped with a dozer blade and a scraper, the student must ease the dozer into the scraper and push the scraper while it loads.

EQUIPMENT:
-a crawler tractor with a dozer blade
-a scraper loading

STUDENT ACTION: The student learns to get behind the scraper and aid the loading process without undue shock to either piece of equipment. The student matches the speed of the scraper with the dozer. Where possible, the dozer can approach the scraper from an angle to make contact more gently.

PERFORMANCE CHECK: The instructor observes the student action. Measurement is made by assessing the degree to which the student displays proper technique as taught by the instructor. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

Winching Equipment

OBJECTIVE:	Given a piece of equipment (dead or stuck) and a winch equipped dozer, the student must pull that piece of equipment to the instructor's satisfaction.
EQUIPMENT:	-a winch equipped dozer -a piece of equipment to be moved
STUDENT ACTION:	The student attaches the cable to a recommended hitching point on the piece of equipment. The dozer is held in place and the piece of equipment in winched.
PERFORMANCE CHECK:	The instructor observes the student performace. Check is made for a proper hitch point and proper use of equipment. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

Industrial Tractor

Learning Controls of Industrial Tractor

OBJECTIVE: Given an industrial type tractor, the student must know the controls for operation of the machine to 100% accuracy.

EQUIPMENT:
-an industrial tractor
-operator's manual

STUDENT ACTION: The student learns the controls of an industrial type rubber tired tractor. The student learns which direction to move a lever to produce the desired response of the machine. Proper usage of throttle, brake, transmission controls, clutch, and shuttle are emphasized.

PERFORMANCE CHECK: The instructor determines the student's knowledge of the controls by giving a written pictorial identification exam or by observation of the student's response when given an oral command for a specific function (for example, "use first gear" or "use high reverse"). The student should correctly perform the desired operation. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

RESOURCES: The Operator's Manual for the specific tractor.

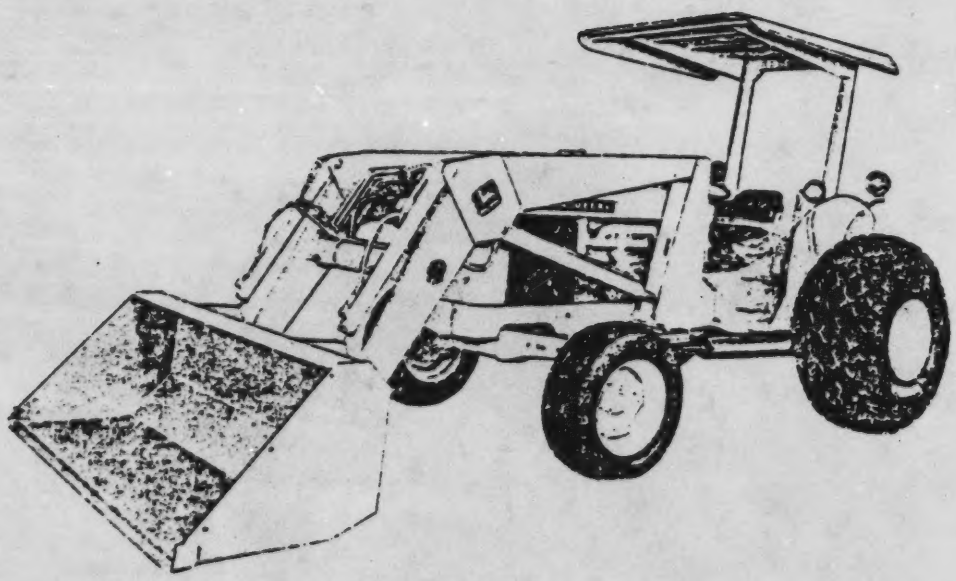
Front Loader

Learning controls of front end loader

Filling trench with front loader

Loading a truck

Digging a basement or pit



Learning Controls Of Front End Loader

OBJECTIVE: Given the necessary information, the student must learn the controls of the machine to 100% accuracy.

EQUIPMENT:
-a front end loader
-the operator's manual

STUDENT ACTION: The student learns the function and operation of each control. The student learns which direction to move a lever to produce the desired response of the machine. Proper usage of boom and bucket controls is emphasized. The controls of transmission, barkes, clutch, throttle, etc. are also learned.

PERFORMANCE CHECK: The instructor determines the student's knowledge of the controls by giving a written pictorial identification exam, or by observation of the student's response when given an oral command for a specific function. When necessary, explain the error and/or weakness to the student. Allow time for review and practice. Re-assign task and re-test.

RESOURCES: The Operator's Manual for the specific piece of equipment.

Filling Trench With Front Loader

OBJECTIVE: Given a front end loader and an open trench with the necessary dirt lying beside the trench, the student must push the dirt into the open trench and "mound" the dirt over the trench to the instructor's satisfaction.

EQUIPMENT:
-a trench with dirt beside it
-a front end loader

STUDENT ACTION: The student fills the trench with the dirt which was piled near the trench during excavating. The front bucket of the backhoe, or a similar front end leader is used to push the dirt into the trench. The student learns to position the bucket with the bottom flat and scoop dirt. The dirt is pushed toward the trench and the boom raised and bucket dumped. Excess dirt is piled in a mound over the trench for settling purposes.

PERFORMANCE CHECK: The instructor determines by observation if the student correctly positions the bucket and moves the dirt to the trench. Check is made for uniform coverage. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

Loading A Truck

OBJECTIVE: Given a front loader and a stock pile of material, the student must load a truck with the material to the instructor's satisfaction.

EQUIPMENT:
-a front loader
-a stock pile of material (dirt, gravel, sand)
-a truck

STUDENT ACTION: The student moves the material from the stock pile to the truck. The student learns to position the bucket level and lower it to the ground; to drive into the pile of material, curl the bucket, and raise the boom while still moving forward; and to raise bucket and position it over the truck. The dumping of the bucket should place the material in center of the bed so the load is evenly distributed.

PERFORMANCE CHECK: The instructor observes the student action and makes assessment according to the specifications. Check is made for technique in loading the bucket, dumping the bucket, and proper loading of the truck. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

Digging A Basement Or Pit

OBJECTIVE: Given a front bucket-type loader and the necessary specifications, student must dig a pit to the required specifications.

EQUIPMENT:
-a front bucket-type loader or crawler
-necessary place and specifications

STUDENT ACTION: The student digs the pit to the specifications. He is taught to pile the dirt so it will be out of the way of further digging, yet not cause exessive moving distance. The student learns to work in the pit making the corners square and sides straight, and leave a place to drive his machine out of the pit.

PERFORMANCE CHECK: The instructor observes the student's performance and assesses it in relation to the objective. Check is made for accuracy. Determine if the student planned ahead and can conveniently drive the machine out of the pit. When necessary, explain the errors or weaknesses to the student. Allow time for review and practice. Re-assign task and re-test.

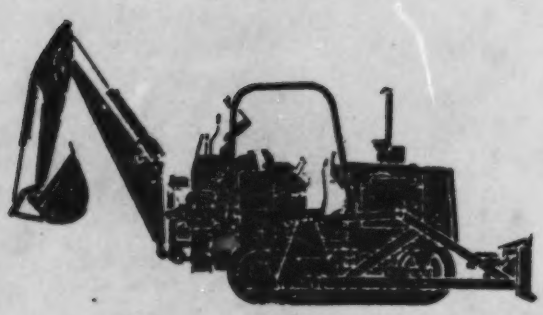
Backhoe

Learning controls of backhoe

Aligning backhoe

Digging trench

Digging a pit



Learning Controls of Backhoe

OBJECTIVE: Given the necessary information, the student must know the controls for operation of the machine to 100% accuracy.

EQUIPMENT:
-operator's manual
-backhoe

STUDENT ACTION: The student learns the function and operation of each control. The student learns which direction to move a lever to produce the desired response of the machine. Proper usage of all controls; booms, dipper stick, bucket, stablizers, swing, is mandatory.

PERFORMANCE CHECK: The instructor assigns the operation to the student. Knowledge of the controls is checked with a written pictorial identification or oral exam. The student is placed in an operating situation and given specific commands or hand signals.

RESOURCES: Operator's Manual

Aligning Backhoe

OBJECTIVE: Given a backhoe and a set of stakes to follow, the student must align the tractor and backhoe with the stakes and move the tractor as necessary, keeping it aligned to within ± 3 inches either side of the center line the line to be dug.

EQUIPMENT:
-tractor and backhoe
-prescribed center line

SPECIAL PREPARATION: Supply the necessary layout of stakes for the student to follow.

STUDENT ACTION: The student learns to position the tractor and backhoe over the center line of the trench to be dug. Measurement of the specifications should be made at the pivot point of the boom swing (the point where the backhoe boom is attached to the tractor). When the pivot point of the backhoe is over the center line of the trench, the trench will remain straight.

PERFORMANCE CHECK: The instructor observes the student performance. Check is made for alignment according to the specifications. Where necessary, explain errors or weaknesses to the student. Allow time for practice, give helpful suggestions, and re-test.

Digging Trench

OBJECTIVE: Given a backhoe and a set of stakes to follow, the student must dig a trench to specified depth within ± 2 inches.

EQUIPMENT:
-backhoe
-transit, level, or hand level
-target rod

SPECIAL PREPARATION: Provide the necessary specifications for the student to follow.

STUDENT ACTION: The student digs the trench to the given specifications. When the pivot point of the backhoe is over the center line of the trench, the trench will remain straight.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student meets the specifications. Check is made with an instrument to determine the elevations and uniformity of the cut.

Digging A Pit

OBJECTIVE: Given a backhoe and a set of specification for a pit, the student must dig a pit to within ± 3 inches of the specifications.

EQUIPMENT:
-backhoe
-transit, level or hand level
-target rod

SPECIAL PREPARATION: Provide a set of specifications for the student to follow.

STUDENT ACTION: The student learns to position the backhoe and dig a pit to the necessary specification. For small pits, the edge may be dug, then the center. For larger pits, one end and sides may be dug as the backhoe is moved. It is possible to dig the last end from the side for squareness. The student should learn to plan the positioning of the backhoe ahead of the actual digging.

PERFORMANCE CHECK: The instructor observes the student's performance in relation to the specifications. Measurement is made and compared to the specifications. Student weaknesses should be noted and further work assigned to assist the learning of the skill.

Grader

Learning controls of a grader

Grading a road or lot

Grading a ditch

Scarifying a surface

Learning Controls Of A Grader

OBJECTIVE: Given a road grader, the student must know the controls for operation of the machine to 100% accuracy.

EQUIPMENT:
-a grader
-operator's manual

STUDENT ACTION: The student learns the function and operation of each lever or control. The student learns which direction to move a lever to produce the desired response of the machine. Foot pedals, transmission controls, balde controls, scarifier, and front wheel tilt are learned.

PERFORMANCE CHECK: The instructor checks the student's knowledge of the controls with a written pictorial identification exam. Assign operation to the student by vocal command or hand signal. Check the student's response in relation to the specifications. Observe the student's procedure and note weaknesses and errors. Explain the errors. Allow time for review and practice. Re-assign and re-test.

Grading a Road or Lot

OBJECTIVE

Given a grader and a set of specifications for a road or lot, the student must grade the road or lot to the specifications within + 0.2 ft.

EQUIPMENT:

-grader
-transit or level
-target rod

SPECIAL PREPARATION:

Provide a set of specifications for the student to follow

STUDENT ACTION:

The student learns to control the grader blade to meet the specification. He learns to carry enough dirt to fill low spots. On the next path, the student laps the first path enough to make a smooth surface from one pass to the next.

PERFORMANCE CHECK:

The instructor observes the student's performance in relation to the specifications. The student's work is measured and compared to the specifications. Helpful pointers are given in weak areas. The task is re-assigned and retested after further practice.

NOTE:

Most specifications require the surface to be left 0.1 ft. over the finish grade.

Grading a Ditch

OBJECTIVE: Given a grader and a set of specifications for a ditch, the student must cut a ditch to the specifications.

EQUIPMENT:
-grader
-transit or level

SPECIAL PREPARATION: Provice a set of specifications for the student to follow.

STUDENT ACTION: The student learns to cut a ditch. The initial cuts (2 or 3) are made, then the dirt is spread. After the fourth and possible fifth cuts are made, the bank is sloped. Then the ditch is cleaned and the dirt spread. The student learns the many combinations of blade placement. Also front wheel positioning is important.

PERFORMANCE CHECK: The instructor observes the student's performance in relation to the specifications. The ditch is measured and compared to the specifications. Helpful pointers are given in areas of weakness. The student corrects any errors in the ditch.

RESOURCES: Caterpillar Operator's Manuals for graders

Scarifying A Surface

OBJECTIVE: Given a grader and a hard surface to scarify, the student must scarify the surface to the instructor's satisfaction.

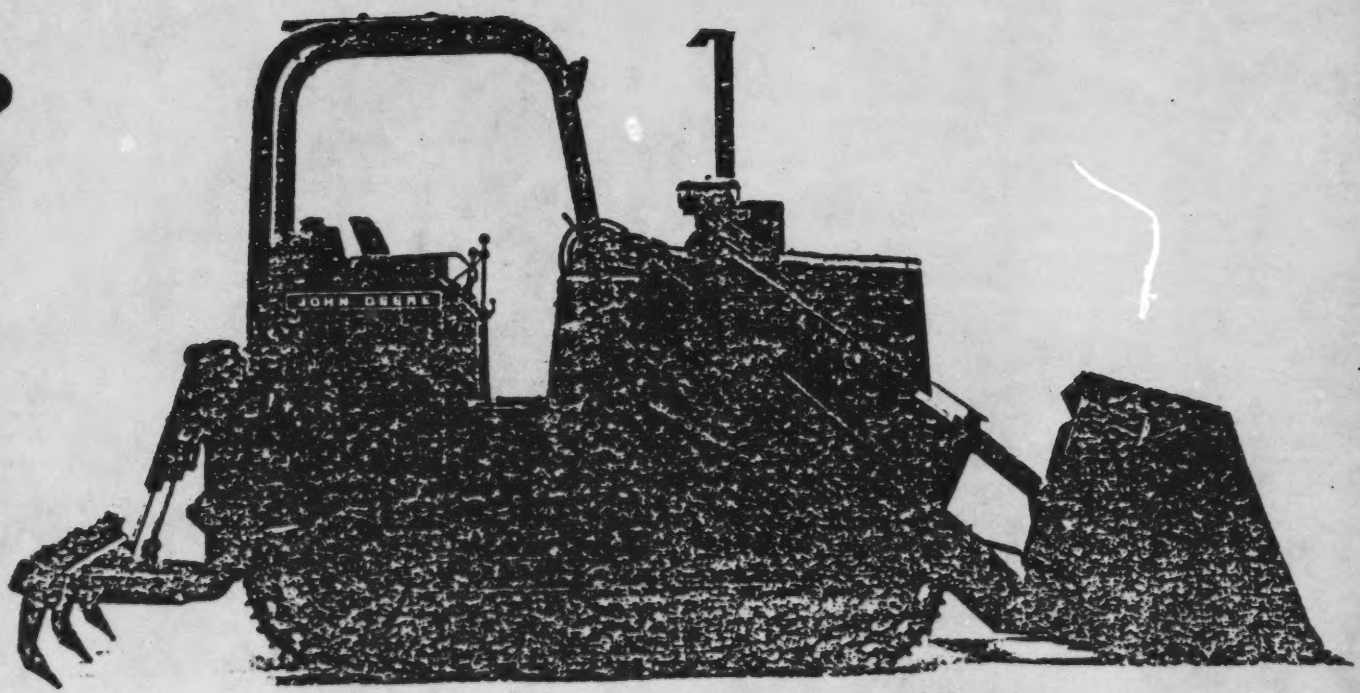
EQUIPMENT: -a grader with a scarifier

STUDENT ACTION: The student learns to scarify a hard surface. Skill is learned in proper positioning of the grader for successive passes. Most scarifiers are narrower than the grader and skips can easily occur.

PERFORMANCE CHECK: The instructor observes the student's perform to determine if the student is correctly scarifying the surface. Check is made for proper depth, uniformity of depth, and the lack of skips.

Pulled Attachments

Pulling Attachments



Scraper

Learning controls of scraper

Cutting to grade

Filling to grade

Learning Controls of Scraper

OBJECTIVE: Given a scraper, the student must know the controls for operation of the machine to 100% accuracy.

EQUIPMENT:
-the operator's manual
-a scraper

STUDENT ACTION: The student learns the function and operation of each lever or control. The student learns which direction to move a lever to produce the desired response of the machine. Foot pedals, transmission controls, pan, apron, and elevator are learned.

PERFORMANCE CHECK: The instructor checks the student's knowledge of the control with a written pictorial identification exam. He then assigns an operation to the student by vocal command or hand signal. The student's response is checked by observation. Where necessary, the student's weaknesses are noted and helpful suggestions are made.

RESOURCES: Operator's Manual for the specific machine.

Cutting to Grade

OBJECTIVE: Given a scraper and a set of specifications, the student must cut away dirt to specifications.

EQUIPMENT:
-scraper
-transit or level
-target rod

STUDENT ACTION: The student learns to control the pan height and make 1 cut to the specified depth. When the cut is done or the pan full, the apron is lowered and the pan raised. The dirt is transported to a specified place.

PERFORMANCE CHECK: The instructor observes the student's performance in relation to the specifications. The cut is measured and compared to the specifications. Any errors are corrected by the student to make the cut accurate.

NOTE: Most specifications require the cut to be left 0.5 ft over the finish grade. Closer cuts are made with a grader, the dirt is windowed, then picked up with the scraper.

Filling To Grade

OBJECTIVE: Given a scraper and a set of specifications, the student must fill to the specifications.

EQUIPMENT:
-scraper
-transit or level
-target rod

STUDENT ACTION: The student learns to control the pan height and make a fill to the specified level. The pan height is set before the apron is opened. After opening the apron, the tail gate is brought forward to keep a steady flow of dirt over the front edge of the pan.

PERFORMANCE CHECK: The instructor observes the student's performance. Check is made for proper technique in setting the height of the pan and use of the tail gate. Helpful suggestions are given in the areas of weakness and further practice time is given before retesting.

NOTE: Most fills are made and compacted to at least 0.5 ft. over the finish grade. Then cut down with grader. The dirt is windowed, then picked up with the scraper.

Pulling Attachments

OBJECTIVE: Given a tractor and a pulled attachment such as a sheepsfoot roller or disc-harrow, the student must pull the attachment, performing the specified job without skipping, and using care when turning.

EQUIPMENT:
-a pulled attachment
-a tractor

STUDENT ACTION: The student learns to pull the attachment and perform the specified job. Care is exercised in working the ground the proper number of times to get the desired results. The student learns to turn and watch that the attachment does not catch on the tractor track or tire.

PERFORMANCE CHECK: The instructor observes the student action in relation to the objective. Any student weaknesses are noted and helpful suggestions are made.

REGULATIONS AND INSPECTIONS

Instructional Permit - As Per Local State Regulations
Driver's License

Regulations - As Per Local State Regulations

Class "D" Driver's License

Federal Safety Regulations

Log Book, Completion of

General Inspection

Instructional Permit - As Per Local State Regulations

OBJECTIVE: Given the necessary information, the student knows and understands the state regulations for truck driving and satisfactorily passes the written test for the Class "D" Driver's License.

EQUIPMENT: Rules of the Road

STUDENT ACTION: Student learns the necessary information from the Rules of the Road and takes the written test.

PERFORMANCE CHECK: Written test for the Local State Regulations for Class "D" Driver's License given by the Driver's License Examiner.

RESOURCES: Rules of the Road, as per local State Regulations

Your Driver's Exam and Road Test, Benjamin C. Bogue
The National School of Safe Driving, Inc., Chicago, Illinois 60639.

NOTE: Make certain the Rules of the Road is the latest Edition.

Regulations - As Per Local State

OBJECTIVE: Given the necessary information, the student knows and understands the laws governing weight limitations, vehicle regulation classifications, and permits according to the instructor's satisfaction.

EQUIPMENT:
-license plate application (vehicle registration)
-over weight permit applications

STUDENT ACTION: The student learns the weight allowed on a single axle, tandem axle, and various combinations of axles. He is aware of the necessary vehicle registration classification for axle combinations, and is acquainted with procedure for securing permits for over-weight and over-size. He learns where to obtain information on clearance of structures and load limits on bridges.

PERFORMANCE CHECK: Determine if student has acquired the material of the "student action" by a written or oral test over the facts involved.

RESOURCES: Vehicle Sizes and Weights Manual, J.J. Keller & Associates. 145 West Wisconsin Avenue, Neenah, Wisconsin 54956

NOTE: Local newspapers may be a source for a levee of fines for overweight loads.
Use Local State Police as resource person.

Class "D" Driver's License

OBJECTIVE: After sufficient driving experience with an instructor, the student secures a Class "D" Driver's License according to the local state specifications.

EQUIPMENT: -truck and trailer

STUDENT ACTION: The student takes the driving test for Class "D" Driver's License with a driver's license examiner.

PERFORMANCE CHECK: Assess the performance with the driving test given by the driver's license examiner. If student fails, isolate the area of weakness and offer constructive help.

NOTE: A minimum of 10 house of over-the-road experience is suggested before testing.

Federal Safety Regulations

OBJECTIVE: Given the required information, the student knows and understands the Federal Safety Regulations, Parts 391-397, and demonstrates that knowledge with at least 70% score on the American Trucking Association Test.

EQUIPMENT: Test, American Trucking Association, ATA form C0690

STUDENT ACTION: The student learns the definitions and regulations necessary for a satisfactory working knowledge of the Federal Safety Regulations. Study is made of Parts 391 through 397.

PERFORMANCE CHECK: Test the student with the Written Examination, ATA form C0690. If test is failed, isolate the weakness and re-test after necessary remedial help.

RESOURCES: Truck Driver Training, "A Manual for Driver-Trainers", American Trucking Associations, Inc., Washington, D.C. pp. 15-30

Driver Handbook for Private Motor Carriers, American Trucking Association, Inc., Washington, D.C.

Log Book, Completion of

OBJECTIVE: Given the necessary forms, the student fills out a log of daily driving to the instructor's satisfaction.

EQUIPMENT: Driver's Daily Log (form MCS 59)

Motor Carrier Safety Regulations, Part 395

STUDENT ACTION: The student must fill out a daily log using the necessary definitions and regulations. Care is given to accuracy and neatness.

PERFORMANCE CHECK: Assign a log to be completed and determine if the student correctly completed the log book. It is suggested that a student correctly complete at least three (3) daily logs for the performance check.

RESOURCE: Motor Carrier Safety Regulations; U.S. Department of Transportation, Federal Highway Administration, Bureau of Motor Carrier Safety, Washington, D.C.

Pellegrino, Charles, Owner Operator, "Your Logbook"; Nov./Dec., 1973.

Driver's Daily Log

NOTE: All necessary information must be given and all figures should tltal correctly.

General Inspection

OBJECTIVE: Given a truck, the student makes a general inspection of the truck to determine its condition and readiness according to the Motor Carrier Safety Regulations.

EQUIPMENT:
-Truck or Combination
-Driver Inspection Report (ATA Form C0830)

STUDENT ACTION: The student learns to check the condition of the truck before operating it. Any inadequacies or malfunctions should receive repair before operating the truck.

PERFORMANCE CHECK: The condition of the truck must be observed to determine if the student has properly checked the condition of the truck. This performance check should be done at least three times for the student to demonstrate his competency.

RESOURCES:
Check-list on Official Driver's Daily Log

Motor Carrier Safety Regulations, Part 396

Driver's Inspection Report, American Trucking Association, Inc., A.T.A. Form C0830.

SHIFTING

4-speed transmission

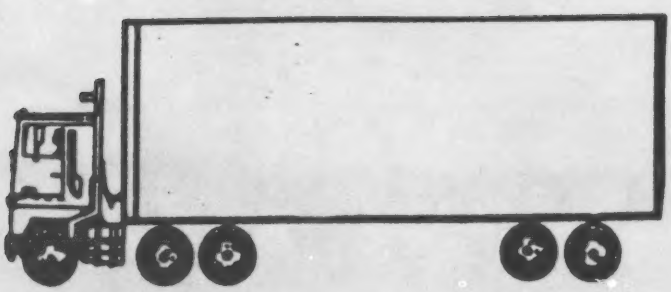
5-speed transmission

Transmission with 2-speed axle

5-speed transmission w/3-speed auxiliary

10-speed roadranger

13-speed roadranger



4-speed Transmission

OBJECTIVE: Given a truck with a four-speed transmission, the student shifts the transmission without jerking or grating, and maintains the proper engine R.P.M. range to the instructor's satisfaction.

EQUIPMENT: -truck equipped with a 4-speed transmission

STUDENT ACTION: The student learns to upshift and downshift the transmission. Double-clutching is taught for the downshift. Care is exercised that the student does not lug or over-speed the engine.

PERFORMANCE CHECK: Through observation, determine if the student is correctly shifting transmission. Where necessary, provide suggestions for correcting the shifting procedure.

RECOURSES: The operator's manual for the specific truck being used.

Truck Driver Training, "A Manual for Driver Trainers", American Trucking Association, Inc., Washington, D.C. pages 40, 41.

5-speed Transmission

OBJECTIVE: Given a truck with a five-speed transmission, the student shifts the transmission without jerking or grating, and maintains the proper engine R.P.M. range to the instructor's satisfaction.

EQUIPMENT: -truck equipped with a 5-speed transmission

STUDENT ACTION: The student learns to upshift and downshift the transmission. Double-clutching is taught specifically for the downshift.

PERFORMANCE CHECK: Observation is made to determine if the student is correctly shifting the transmission. Where necessary, provide suggestions for correcting the shifting procedure.

RESOURCES: The operator's manual for the specific truck being used.

Truck Driver Training. "A Manual for Driver-Trainer", American Trucking Associations, Inc., Washington, D.C. pages 40, 41.

Transmission With 2-Speed Axle

OBJECTIVE: Given a truck with a 2-speed axle, the student shifts the transmission and anle without jerking or grating and maintains the proper R.P.M. range and proper sequence to the instructor's satisfaction.

EQUIPMENT: -a truck equipeed with a 2-speed axle.

STUDENT ACTION: The student learns to upshift and downshift the 2-speed axle.

Upshift - The axle is upshifted by moving the shift button to "high", then releasing the accelerator until the axle shifts.

Downshift - The axle button is moved to "low" and the clutch disengaged at the same time. The accelerator is held down during the shift.

Splitshift - The axle button is used in each transmission gear to give additional power and reduce lugging. When upshifting the transmission and downshifting the axle, the transmission is shifted first, then the axle is shifted just before the clutch is engaged. When downshifting the transmission and upshifting the axle, the axle is shifted, accelerator released. then the transmission is downshifted.

PERFORMANCE CHECK: Observation of the student is made to determine if he is correctly shifting the transmission and axle. Make certain the sequence is correct and that the axle does not "grind" during clutch disengagement. Where necessary, provide suggestions for correcting the shifting pattern and techniques.

RESOURCES: Manufacturer's instructions for shifting 2-speed axle.

NOTE: Complete clutch pedal travel is not necessary for 2-speed axle shifts. Approximately half depression of the pedal is sufficient and smoothness is greatly increased.

5-speed Transmission w/3-speed Auxiliary

OBJECTIVE: Given a truck with a 5-speed transmission and 3-speed auxiliary, the student shifts both transmissions without jerking or grating and maintains the proper R.P.M. range and proper gear sequence.

EQUIPMENT: -truck equipped with a 5-speed transmission and a 3-speed auxiliary.

STUDENT ACTION: The student learns to upshift and downshift the transmissions. Proper sequence is taught. The main transmission is shifted with the auxiliary in high gear. Both transmissions should not be in neutral at the same time.

Upshifting - When the auxiliary transmission is in high, the main transmission is shifted into the next gear. The the auxiliary is downshifted to first. Engine R.P.M.'s are allowed to drop when shifting the main transmission, then raised when the auxiliary is downshifted.

Downshifting - When the auxiliary transmission is in first and downshift is necessary, shift the auxiliary to high, then downshift the main transmission.

PERFORMANCE CHECK: Observation of the student is made to determine if he is correctly shifting the transmissions. Make certain that the sequence is correct. Where necessary, provide suggestions for correcting the shifting patterns and techniques.

RESOURCES: The Operator's Manual for the specific truck being used.

CAUTION: Care is exercised that the student does not lug or overspeed the engine.

10-speed Roadranger

OBJECTIVE: Given atruck with a 10-speed Roadranger, the student shifts the transmission without jerking or grating and maintains the proper engine R.P.M. range and proper gear sequence.

EQUIPMENT: -truck equipped with a 10-speed Roadranger (Fuller)

STUDENT ACTION: The student learns to upshift and downshift the transmission.

PERFORMANCE CHECK: Observation of the student is made to determine if he is correctly shifting the transmission. Where necessray, provide suggestions for correcting shifting procedure.

RESOURCES: The operator's manual for the specific truck being used.

CAUTION: Care is exercised that the student does not lug or overspeed the engine.

13-speed Roadranger

OBJECTIVE: Given a truck with a 13-speed Roadranger, the student shifts the transmission without jerking or grating and maintains the proper engine R.P.M. range and proper gear sequence.

EQUIPMENT: -truck equipped with a 13-speed Roadranger

STUDENT ACTION: The student learns to upshift and downshift the transmission. Proper sequence is taught. (See appendix).

PERFORMANCE CHECK: Observation of the student is made to determine if he is correctly shifting the transmission. Where necessary provide suggestions for correcting the shifting pattern and technique.

RESOURCES: The operator's manual for the specific truck being used.

CAUTION: Care is exercised that the student does not tug or over speed the engine.

BACKING AND DOCKING

Backing into alley-aligned

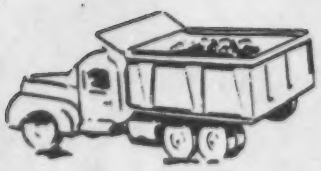
Backing into alley - left side of truck

Backing into alley - right side of truck

Backing into dock - straight back

Backing into dock - left side of truck

Backing into dock - right side of truck



Backing Into Alley - Truck Aligned

OBJECTIVE: Given a truck the student must maneuver straight back into and/or through an alley.

EQUIPMENT:
-safety cones
-straight truck

STUDENT ACTION: The student aligns the truck with the alley and backs straight into the alley using the mirrors. The backing distance should be at least twice the length of the truck, keeping the truck straight.

PERFORMANCE CHECK: The student learns to pull in front of an alley and align the truck while pulling forward; then go back into and possibly through the alley. The student's performance must be observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness continue the task until the student can competently perform the task.

NOTE: Suggested alley width, 9 ft.

Backing Into Alley - Left Side of Truck

OBJECTIVE: Given a truck the student must back into the alley from an angular position with the alley off the left side of the truck.

EQUIPMENT:
-safety cones
-straight truck

STUDENT ACTION: Using the mirrors, the student must back the truck into an alley where conditions are such that he cannot align the truck with the alley. In this exercise the approach should put the alley on the driver's side of the truck. The student has to align the truck with the alley as the truck enters the alley.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check.

NOTE: Suggested alley width, 9 ft.

Backing into Alley - Right Side of Truck

OBJECTIVE: Given a truck, the student must back into the alley from an angular position with the alley on the right side of the truck.

EQUIPMENT:
-safety cones
-straight truck

STUDENT ACTION: Using the mirrors, the student must back the truck into an alley where conditions do not allow the truck to be aligned with the alley. In this exercise, the approach puts the alley on the right side of the truck, one of the most difficult maneuvering conditions because of the poor visibility. The student has to align the truck with the alley as the truck enters the alley.

PERFORMANCE CHECK: Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

NOTE: Suggested alley width, 9 ft.

Backing Into A Dock - Straight Back

OBJECTIVE: Given a truck the student must align the truck with the dock, back the truck to within 6 inches of the dock (measured at the center of the truck) and center within + 6 inches.

EQUIPMENT:
-a docking area
-straight truck

STUDENT ACTION: The student must back the truck to the dock from a position aligned with the dock. The student learns to pull in front of the dock and align truck before starting to back. The truck should be positioned so the dock is visible in both mirrors.

PERFORMANCE CHECK: Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

Backing Into Dock - Left Side of Truck

OBJECTIVE: Given a dock and a truck positioned so the dock is in an angular position on the left side of the truck, the student must back the truck to within 6 inches of the dock (measured at the center of the truck) and center with +6 inches.

EQUIPMENT:
-straight truck
-docking area

STUDENT ACTION: The student must position the truck in front of the dock at an angle. The dock should be on the left side of the truck. The student then backs the truck to the dock within the specifications, using the mirrors. Left side is used whenever possible for better visibility in backing.

PERFORMANCE CHECK: Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

Backing Into Dock - Right Side of Truck

OBJECTIVE: Given a dock and a truck positioned so the dock is in an angular position on the right side of the truck, the student must back the truck to within 6 inches of the dock (measured at the center of the truck) and center within +6 inches.

EQUIPMENT:
-straight truck
-docking area

STUDENT ACTION: The student must position the truck in front of the dock at an angle. The dock should be on the right side of the truck. The student backs the truck to the dock within the specifications, using the mirrors. The right side causes maximum difficulty in visibility.

PERFORMANCE CHECK: Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine cause and offer contructive guides on maneuvering. Have student continue task until he can meet the objective.

CAUTION: Student must exercise extreme caution because of poor visibility when backing to the right.

MANEUVERING

Left-hand turn

Right-hand turn

"U" turn

Through 10-feet opening

Left-Hand Turn

OBJECTIVE: Given a truck, the student must maneuver a left hand turn at an intersection keeping the truck to the right of the center line throughout the turn.

EQUIPMENT: -single truck

STUDENT ACTION: The student must make the left-hand turn by keeping the truck far enough to the right to stay right of the center lines. (The turn should be completed with the truck in the lane closest to center.)

PERFORMANCE CHECK: Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness. determine cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

NOTE: The intersection may be simulated with safety cones for a practice course.

Right-Hand Turn

OBJECTIVE: Given a truck, the student must maneuver a right-hand turn at an intersection keeping the truck off of the curb and out of on-coming traffic where possible.

EQUIPMENT: -single truck

STUDENT ACTION: The student must maneuver a right-hand turn by keeping the truck to the left an amount sufficient to keep the truck off the curb. The student is allowed to use a portion of the other lanes where necessary to complete the turn. (Care is used when the truck enters on-coming lanes of traffic).

PERFORMANCE CHECK: Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

CAUTION: Extreme caution is used when the truck must enter on-coming lanes of traffic to conplete the turn. Also, watch for care which might squeeze between the truck and curb whicl the truck is waiting to make the turn.

"U" Turn

OBJECTIVE:	Given a truck, the student turns the truck around in an area whose width is twice the length of the truck.
EQUIPMENT:	-straight truck
STUDENT ACTION:	The student must turn the truck around in an area whose width is twice the length of the truck and go back in the direction from which he came.
PERFORMANCE CHECK:	Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

10-Feet Opening (Single Truck)

OBJECTIVE: Given a truck the student must maneuver the truck through a 10-ft. width.

EQUIPMENT: -straight truck

STUDENT ACTION: The student must drive the truck through a 10-feet wide opening without touching either side.

PERFORMANCE CHECK: Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

HOOKING TO TRAILER

Alignment of tractor with trailer

Adjustment of dollies

Catching kingpin with fifth wheel

Hook-up of air lines

Unhooking of trailer

Alignment of Tractor With Trailer

OBJECTIVE: Given a truck-tractor and semi-trailer the student must align the tractor to the trailer within +4 inches in three attempts.

EQUIPMENT:
-truck-tractor
-semi-trailer

STUDENT ACTION: Student must align the tractor with the trailer while backing to the trailer. The student must stop before reaching the trailer and check the height of the trailer in relation to the fifth wheel. The +4 inches tolerance allows the king pin to be caught by the fifth wheel. No more than 4 inches keeps the side strain on the dollies to a minimum.

PERFORMANCE CHECK: The student's performance is observed to determine if the student aligned the fifth wheel and king pin to the specifications. The performance should be checked at least twice to insure proper results. If necessary, have student continue the task until he is able to meet the specifications. Offer suggestions to help with areas of weakness.

RESOURCES: Truck Driver Training, "A Manual for Driver Trainers", American Trucking Associations, Inc. Washington, D.C. 20036, page 45

NOTE: The student must learn to use mirrors when backing to the trailer.

Adjustment of Dollies

OBJECTIVE: The student must adjust the dollies to bring the trailer within the specification of level with the fifth wheel to 3-inches below. (If dollies are not adjustable, provisions must be made to get the trailer level with or below the fifth wheel.)

EQUIPMENT:
-truck tractor
-semi-trailer

STUDENT ACTION: The student must adjust the height of the trailer so the trailer is even with the fifth wheel to no more than 3-inches below the fifth wheel. Moderate resistance should be felt when the fifth wheel tips forward as the truck backs under the trailer.

PERFORMANCE CHECK: The student's performance is observed to determine if the student has set the trailer even with our within 3-inches below a line even with the center of the fifth wheel. If not, have the student correct the position of the trailer dollies. Continue the task until he can set them at the correct height.

RESOURCES: Truck Driver Training, "A Manual for Driver-Trainers", American Trucking Associations, inc., Washington, D.C., 20036, page 45

NOTE: The trailer should be low enough that firm contact is made between the fifth wheel and upper plate on the trailer.

Catching the Kingpin with the Fifth Wheel

OBJECTIVE: The student must back the truck-tractor under the semi-trailer and catch the kingpin with the fifth wheel.

EQUIPMENT:
-truck-tractor
-semi-trailer

STUDENT ACTION: The student must back the tractor under the trailer until the fifth wheel catches. Student pulls forward easily to make certain that fifth wheel is securely latched. Care is exercised to be certain that the trailer is secure. Damage to air lines, electrical equipment, truck, trailer, and load can result. After a visual inspection is made to insure that the fifth wheel is locked, the landing gear (dollies) should be raised.

PERFORMANCE CHECK: The student's performance is observed to determine if the student securely catches the kingpin with the fifth wheel.

RESOURCES: Truck Driver Training, "A Manual for Driver-Trainers", American Trucking Association, Inc. Washington, D.C. 20036, page 45.

NOTE: Make certain the jaws of the fifth wheel are fully open.

CAUTION: Make certain the fifth wheel is latched before attempting driving off.

Hook-up of Air Lines

OBJECTIVE: The student must attach air lines and electrical connector and checks the function of the brakes and lights.

EQUIPMENT:
-truck-tractor
-semi-trailer

STUDENT ACTION: The student must properly attach the air hoses (emergency and service) to the trailer. Check is made to determine if hoses are attached properly. Student should be trained to listen for the sound of the brakes releasing once the service tanks are charged with air. Electrical connection must be made and lights must be checked for proper functioning.

The trailer brakes are actuated by the emergency braking control valve located on the dash. It must be in the "normal" position to charge the trailer brakes. The tractor hose which discharges air when the valve is in "normal" position is usually hooked to the left connector on the trailer.

PERFORMANCE CHECK: The student's performance is observed to determine if the student has properly attanced the air lines and electrical connections. Check is made to see if they function correctly. If not, review the task and re-teach the indicators of correctly attached lines. Assign the task again.

RESOURCES: Truck Driver Training "A Manual for Driver-Trainers" American Trucking Associations, Inc., Washington, D.C. 20036, page 45

NOTE: Some authorities suggest that the air hook ups are made before the tractor is backed under the trailer. Such a technique prevents the trailer from rolling during hookup.

Unhooking of Trailer

OBJECTIVE: Given a truck-tractor and semi-trailer, the student must secure the trailer and unhook from it to the instructor's satisfaction.

EQUIPMENT:
-truck-tractor
-semi-trailer

STUDENT ACTION: The student parks the trailer in a suitable place, blocks the wheels when necessary, and prepares to unhook. The dollies are lowered until they are supporting most of the weight of the trailer (where necessary), planks are used under the dollies to prevent sinking). The fifth wheel is released, the the air and electrical connections unhooked. (The air brakes control valve is set on "Emergency".) The tractor is eased forward from underneath the trailer.

PERFORMANCE CHECK: The student's performance is observed to determine if the student has properly located, supported and unhooked the trailer. Make certain that planks are placed under the dollies where necessary. The ends of the air hoses and electrical connector should be securely fastened to the tractor.

RESOURCES: Truck Driver Treaining "A Manual for Driver Trainers", American Trucking Association, Inc., Washing, D.C. 20036, page 45

CAUTION: The weight of the trailer should be gradually transferred from the fifth wheel to the trailer dollies by pulling forward slowly.

Back & Docking Truck-Tractor and Semi-Trailer

Backing into alley - aligned

Backing into alley - left side of truck

Backing into alley - right side of truck

Backing into a dock - staight back

Backing into dock - left side of truck

Backing into dock - right side of truck

Jack-knife docking of tractor-trailer

Backing Into Alley Truck Aligned

OBJECTIVE: Given a truck-tractor and semi-trailer combination, the student must maneuver straight back into an alley to the instructor's satisfaction.

EQUIPMENT:
-truck-trailer
-semi-trailer
-safety cones

STUDENT ACTION: The student must align the truck with the alley and back straight into the alley using the mirrors. The backing distance should be at least twice the length of the truck-trailer combination and it should be kept straight during the backing. The student learns to pull in front of an alley and align the truck while pulling forward: then to back into and possibly through the alley.

PERFORMANCE CHECK: Observe the student's performance to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, continue the task until the student can competently perform the task.

NOTE: Suggested alley width, 10 ft.

Backing into Alley - Left Side of Truck

OBJECTIVE: Given a truck-tractor and semi-trailer combination the student must back into an alley from an angular position with the alley off the left side of the truck.

EQUIPMENT:
-truck-tractor
-semi-trailer
-safety cones

STUDENT ACTION: Using the mirrors, the student must back the trailer into an alley where conditions are such that he cannot align the truck-trailer combination with the alley. In this exercise, the approach should put the alley on the driver's side of the truck. The student has to align the trailer with the alley as the trailer enters the alley.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

NOTE: Suggested alley width, 10 ft.

Backing Into Alley - Right Side of Truck

OBJECTIVE: Given a truck-tractor and semi-trailer conbination the student must back into the alley from an angular position with the alley on the right side of the truck.

EQUIPMENT:
- -truck-tractor
- -semi-trailer
- -safety cones

STUDENT ACTION: Using the mirrors, the student must back the trailer into an alley where conditions do not allow the truck-tractor combination to be aligned with the alley. In this exercise the approach puts the alley on the right side of the truck, one of the most difficult maneuvering conditions because of the poor visibility. The student has to allign the trailer with the alley as the trailer enters the alley.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

NOTE: Suggested alley width, 10 ft.

Backing Into A Dock - Straight Back

OBJECTIVE: Given a truck-trackor and semi-trailer combination the student must align the truck with the dock and back the trailer within 6 inches of the dock (measured at the center of the truck) and centered within ±6 inches.

EQUIPMENT:
- -truck-tractor
- -semi-trailer
- -docking area

STUDENT ACTION: The student must back the tractor-trailer to the dock from a position aligned with the dock. Student learns to pull in front of the dock and align the truck with the dock before starting to back. The truck should be positioned so the dock is visible in both mirrors.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer construtive guides on maneuvering. Have student continue task until he can meet the objective.

Backing Into Dock - Left Side of Truck

OBJECTIVE: Given a dock and a truck-tractor semi-trailer combination positioned so the dock is in an angular position on the left side of the combination, the student must back the truck to within 6 inches of the dock (measured at the center of the trailer) and centered within ±6 inches.

EQUIPMENT:
-truck-tractor
-semi-trailer
-docking area

STUDENT ACTION: The student must position the combination in front of the dock at an angle. The dock should be on the left side of the truck. The student then backs the trailer to the dock within the specifications of the objective. Left side is used whenever possible for better visibility in backing.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness determine the cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

Backing Into Dock - Right Side of Truck

OBJECTIVE: Given a dock and a truck-tractor semi-trailer combination positioned so the dock is in an angular position on the right side of the combination, the student must back the truck to within 6 inches of the dock (measured at the center of the trailer) and centered within ± 6 inches.

EQUIPMENT:
- -truck-tractor
- -semi-trailer
- -docking area

STUDENT ACTION: The student must position the combination in front of the dock at an angle. The dock should be the right side of the truck. The student must back the trailer to the dock within the specifications of the objective. The right side causes maximum difficulty in visibility.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

Jack-Knife Docking Of Tracotr-Trailer

OBJECTIVE: Given a dock and a truck-tractor and semi-trailer combination the student must park the trailer within 6 inches of the dock (measured at the center of the dock and the tractor at a 90 detree angle to the trailer.

EQUIPMENT:
-truck-tractor
-semi-trailer
-docking area

STUDENT ACTION: The student must park the trailer against the dock and have the tractor at a 90 degree angle. The parking space should be shorter than the length of the combination so the tractor has to be parked at a 90 degree angle to the trailer.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

Maneuvering Truck-Tractor & Semi-Trailer

Left-hand turn

Right-hand turn

"U" turn

Through 10 feet opening

Left-Hand Turn - Truck-Tractor & Semi-Trailer

OBJECTIVE: Given a truck tractor and semi-trailer combination, the student must maneuver a left-hand turn at an intersection keeping the trailer to the right of the center line throughout the turn.

EQUIPMENT:
-truck-tractor
-semi-trailer

STUDENT ACTION: The student must make the left-hand turn by keeping the tractor far enough to the right for the trailer to stay left of the center lanes. The turn should be completed with the truck in the lane closest to the center.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer contructive guides on maneuvering. Have student continue task until he can meet the objective.

Right-Hand Turn - Truck-Tractor & Semi-Trailer

OBJECTIVE: Given a truck-tractor and semi-trailer combination, the student must maneuver a right-hand turn at an intersection keeping the trailer off the curb, and out of the oncoming traffic where possible.

EQUIPMENT:
-truck-tractor
-semi-trailer

STUDENT ACTION: The student must maneuver a right-hand turn by keeping the tractor to the left an amount sufficient to keep the trailer off the curb. Student is allowed to use a portion of the other lanes where necessary to complete the turn. (Care is used when the tractor enters on-coming traffic).

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

CAUTION: Extreme caution is used when the truck must enter on-coming lines of traffic to complete the turn. ALSO, watch for cars which might squeeze between the truck and curb while the truck is waiting to make the turn.

"U" Turn - Truck-Tractor & Semi-Trailer

OBJECTIVE: Given a truck-tractor and semi-trailer combination, the student must turn the truck around in an area whose width is twice the length of the trailer.

EQUIPMENT:
-truck-tractor
-semi-trailer

STUDENT ACTION: The student is required to turn around in an area two times the length of the trailer and go back in the direction from which he came.

PERFORMANCE CHECK: The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer constuctive guides on maneuvering. Have student continue task until he can meet the objective.

NOTE: Such a turn is not made with loaded equipment unless absolutely necessary, especially on a 3 axle trailer.

10-ft. Opening

OBJECTIVE:	Given a truck-tractor and semi-trailer combination, the student must maneuver the combination through an opening of 10-ft width.
EQUIPMENT:	-truck-tractor -semi-trailer
STUDENT ACTION:	The student must drive the combination through a 10 feet wide opening without touching either side.
PERFORMANCE CHECK:	The student's performance is observed to determine if he meets the objective. The task should be performed at least twice for the performance check. If there is weakness, determine the cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

Parking

Parking of truck

Parallel parking of truck

Parking of Truck

OBJECTIVE: Given a truck, the student must park the truck so it will remain secure for an indefinite length of time.

EQUIPMENT: -truck

STUDENT ACTION: The student must park the truck so it will remain secure until moved again. Parking brakes are set and proper chocks are used. The transmission should be in low or reverse, and auxiliary transmission and two speed axles in low range.

PERFORMANCE CHECK: The student's performance is observed to determine if the student has parked the truck according to the specifications. If there is weakness, determine the cause and offer contructive guides on maneuvering. Have student continue task until he can meet the objective.

Parallel Parking Of Truck

OBJECTIVE:	Given a truck, the student must securely park the truck within 6 inches of the curb.
EQUIPMENT:	-truck
STUDENT ACTION:	The student securely parks the truck next to the curb according to the specifications.
PERFORMANCE CHECK:	The student's performance is observed to determine if the student has parked the truck according to the specifications. If there is weakness, determine the cause and offer constructive guides on maneuvering. Have student continue task until he can meet the objective.

Positioning of Load

OBJECTIVE: Given a load and a truck, the student must position the load for proper weight distribution to the instructor's satisfaction.

EQUIPMENT:
-truck
-a load

STUDENT ACTION: The student positions the load on the truck. Emphasis is given to positioning the load so that each axle of the truck (or tractor and trailer) has its proper proportion of weight.

PERFORMANCE CHECK: The student's performance is observed to determine if the student has properly positioned the load so the weight is evenly distributed. If not, isolate the cause of error and assign remediation accordingly.

Chaining and Booming Load

OBJECTIVE: Given a condition, the student chains and booms the load to the truck to the instructor's satisfaction and to Motor Carrier Safety Regulations where applicable.

EQUIPMENT:
-truck-tractor
-semi-trailer
-load
-chains and boomers

STUDENT ACTION: The student fastens the load to the trailer with chains and boomers to hold the load in place and keep it from shifting especially during heavy braking situations.

PERFORMANCE CHECK: The student's performance is observed to determine ir the student has met the level of competency. If a weakness is present, isolate it and assign remediation accordingly.

RESOURCES: Motor Carrier Safety Regulations: U. S. Department of Transportation, Federal Highway Administration, Bureau of Motor Carrier Safety.

Dumping A Load

OBJECTIVE: Given a loaded dump truck, the student must dump the load to the instructor's satisfaction.

EQUIPMENT: -dump truck with a load

STUDENT ACTION: The student learns the operation of the dump truck. Skill should be gained in two areas, (1) dumping in a pile, and (2) spreading the load. Besides learning to dump a load in a pile, the student is taught to adjust the chains on the tail gate, partially raised bed, and evenly spread the load while driving.

PERFORMANCE CHECK: The student's performance is observed to determine the level of competency. If weakiness is noticed, provide encouragement and construction in that area and reassign the task.

CAUTION: Care should be exercised when dumping trucks on a surface that is not level. Tipping can occur, especially if the load does not slide uniformly.

Over-The-Road

Mapping the route

Transportaing a load

Mapping The Route

OBJECTIVE:	Given the origin, destination, and subsequent stops of a trip, the student must map the route and estimate the travel time.
EQUIPMENT:	-road map -vertical and horizontal clearances of structures and load limit of roads and bridges
STUDENT ACTION:	The student must map the route which he intends to travel for the assigned trip. A check should be made of load limits on bridges and roads.
PERFORMANCE CHECK:	Determine if the student mapped the route correctly. If more than one good route is available, the student should be given reason for his choice.
RESOURCES:	Vertical and Horizontal Clearances of Structures and Load Limit Roads and Bridges information may be obtained from State Department of Transportation.

Transporting a Load From One Place to Another

OBJECTIVE: Given the accumulated competencies of the previous tasks, the student must load a truck, secure the load, move the load, dock and unload to the instructor's satisfaction.

EQUIPMENT:
- -truck
- -a load
- -boomers and chains
- -docks

STUDENT ACTION: The student demonstrates the degree to which he has learned the various tasks of truck driving by performing the job outlined above.

PERFORMANCE CHECK: Observe the student's performance and assess his competency. Determine if the student meets the objective, note any weaknesses which are observed and assign the appropriate task for remediation.

NOTE: It is suggested that the student cross a set of weight scales during the trip.

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